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a dual mode unit coupled to receive the selected vector components for generating the cross product component or the dot product in response to the first signal and comprising a plurality of shared logic units that are used to generate the cross product component and the dot product.

11. (Once Amended) A dual mode device for generating a cross product or a dot product from a first vector and a second vector, the first and second vectors having a plurality of components, the device comprising:

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a dual mode controller receiving the first and second vectors, the dual mode controller being configured to select vector components for evaluating a cross product or a dot product in response to a first signal, the first signal indicating whether to generate a cross product or a dot product; and

a plurality of dual mode units coupled to receive the selected vector components for generating the cross product or the dot product in response to the first signal, each dual mode unit generating one cross product vector component of the cross product, the dual mode units generating and outputting the cross product vector components as the cross product when the select signal indicates generation of the cross product component, each dual mode unit comprising a plurality of shared logic units that are used to generate the associated cross product component and the dot product.

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18. (As Amended) In computer system having a graphics subsystem comprising a dual mode device, the dual mode device comprising a dual mode controller and a dual mode unit, a method for generating a cross product or a dot product from a first vector and a second vector, the first vector having a first set of components and the second vector having a second set of components, the method comprising:

receiving the first and second vectors for generating a cross product component or a dot product at the dual mode controller;

receiving a first signal indicating whether to generate a cross product component or a dot product at the dual mode controller;

selecting vector components for evaluating the cross product component or the dot product in response to the first signal;

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sending the selected vector components to the dual mode unit; and
in response to the first signal and the selected vector components, generating
the cross product component when the first signal indicates generation of the cross
product component and generating the dot product when the first signal indicates
generation of the dot product, wherein the generating of the cross product component
and the dot product is performed using a plurality of shared logic units.
